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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,594	11/13/2003	Lawrence J. Karr	50037.0065USD1	1987

7590 10/30/2006

Attention: Joshua W. Korver
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EXAMINER

NGUYEN, DUC M

ART UNIT PAPER NUMBER

2618

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,594

Applicant(s)

KARR ET AL.

Examiner

Duc M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 44-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11, 44-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to applicant's response filed on 8/15/06. Claims 2-11, 44-53 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 2, the claim recites the limitation "a modulator that comprises a broadcast mode", which implies a mobile device would transmit data in a broadcast mode. However, the specification only describes a mobile device that receives information content in a broadcast mode. The specification **never** suggests a two way communication between the mobile device and the broadcast transmitter. Accordingly, the limitation in which a mobile device "modulates" information content in a broadcast mode is a new subject matter and was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **44-51** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lorang et al** in view of **Chadwick** (US 5,168,271).

Regarding claim **44**, **Lorang** discloses a localcast transmitter included in a mobile device, wherein the mobile device includes a localcast mode and a broadcast mode (see Fig. 11, col. 12, lines 42-46, 64-66), comprising:

- means for interfacing with a data source (see Fig. 2, col. 5, line 50 – col. 6, line 25)
- means for encoding data for transmission (see Fig. 10 regarding the TX path, protocol control 354 and protocol processor 356 which would implicitly disclose an encoder as disclosed by **Chadwick** in Fig. 2);
- means for transmitting the encoded data over a locally-unused FM frequency when the mobile is in the localcast mode (see col. 10, line 61-64, col. 12, lines 44-46).

Here, although **Lorang** is silent on a locally-unused FM frequency, it is noted that since **Lorang** suggests using standard paging FM architecture for communication, and

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since the standard paging FM architecture uses FM subcarrier signals for modulation, it is clear that **Lorang** would obviously suggest FM subcarrier signals as disclosed by **Chadwick** (see Fig. 2), and whereas when communicating in locast mode, the used frequency would be a locally-unused portion of an FM band in order to prevent interferences with FM subcarrier signals broadcasted in the broadcast mode.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify **Lorang** to incorporate an encoder and FM subcarrier signals for modulation as taught by **Chadwick**, for utilizing advantages of FM subcarrier communication protocol such as low power transmission.

Regarding claim **45**, it is clear that **Lorang** would disclose a controller for collecting data (see col. 6, lines 22-25), set a desired transmission frequency (see col. 6, lines 15-20), set a desired transmission mode (i.e, localcast mode or broadcast mode), and signal power (see col. 9, lines 40-43 regarding low power and high power) as claimed.

Regarding claim **46**, **Lorang** as modified would disclose means for formatting data into baseband samples as claimed (see **Chadwick**, Fig. 2 and col. 6, lines 8-10).

Regarding claim **47**, **Lorang** as modified would disclose means to add correlation information for synchronization as claimed (see **Chadwick**, Fig. 2, and col. 5, lines 37-60).

Regarding claim **48**, **Lorang** as modified would disclose means for interleaving data into segments as claimed (see **Chadwick**, Fig. 2, and col. 5, lines 7-35).

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Regarding claim **49**, **Lorang** as modified would disclose means for modulation as claimed (see Chadwick, Fig. 2, and col. 6, lines 8-22).

Regarding claim **50**, the claim is interpreted and rejected for the same reason as set forth in claims 44-49 above.

Regarding claim **51**, it is rejected for the same reason as set forth in claim 50 above. In addition, since user interfaces as recited in the claim is well known in the art (Official Notice), it would have been obvious to one skilled in the art at the time the invention was made to modify Lorang and Chadwick to utilize at least one interface as claimed, for conforming a standard so that it can be accepted in global use.

3. Claims **52**, **53** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lorang** in view of **Chadwick** and further in view of **Cameron** (US 2002/0051499).

Regarding claim **6**, **Lorang** and **Chadwick** as modified fails to disclose a second encoder. However, **Cameron** discloses an encoder which comprises a RS coder and a turbo coder (see Fig. 2 and [0091]). Since **Chadwick** discloses a RS coder (see Chadwick, col. 4, lines 36-57), one skilled in the art would recognize the benefit of the turbo coder in Camaron to further modify **Lorang** and **Chadwick** by incorporating the turbo coder as a second encoder in the encoder in **Lorang** and **Chadwick** as well, for increasing the redundancy of data coding with the second encoder, thereby improving the error correction rate (reliability) of the decoder at the receiver.

Regarding claims **52-53**, **Lorang** and **Chadwick** as modified fails to disclose a second encoder. However, **Cameron** discloses an encoder which comprises a RS

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coder and a turbo coder (see Fig. 2 and [0091]). Since **Chadwick** discloses a RS coder (see Chadwick, col. 4, lines 36-57), one skilled in the art would recognize the benefit of the turbo coder in Camaron to further modify **Lorang** and **Chadwick** by incorporating the turbo coder as a second encoder in the encoder in **Lorang** and **Chadwick** as well, for increasing the redundancy of data coding with the second encoder, thereby improving the error correction rate (reliability) of the decoder at the receiver. Further, **Cameron** discloses that the system encoder bypasses the data encoder when in a turbo mode (see Fig. 2 and [0091]). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to further incorporate Cameron's teaching to Lorang and Chadwick to utilize a bypass as claimed, for increasing the data transmission rate by not performing data coding/decoding processes (i.e, when the signal or channel quality is very good).

Response to Arguments

3. Applicant's arguments filed 8/22/06 have been fully considered but they are not persuasive.

As to claims 2-11, Applicant's argument regarding the "modulator" feature of the mobile device in a broadcast mode are rendered moot in view of the new ground of rejection.

As to claim 44, Applicant contends that

Lorang in view of Chadwick fails to teach (or fairly suggest) a localcast transmitter included in a mobile device, wherein the mobile device includes a localcast mode and a broadcast mode. As defined

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by the specification (page 2, first full paragraph), a localcast mode is used to transmit information over a relatively short range, such as within an office or on a corporate campus.

In contrast, Lorang in Figure 11 merely describes alternate paths of communication to the PDU (portable data unit) to be used when other paths fail. For example, the least preferred path, but having the greatest range, is the "stick" 20 paging cell (FM transmission only), which does not provide an acknowledgement that the transmission has been received (see discussion at col. 12, lines 42-67). Thus, it is noted that the paging cell only transmits data to the PDU, and the PDU cannot broadcast (or localcast) to the paging cell stick. Applicants further note that the "office" and "home" coils are described by Lorang as functional equivalents (see Col. 12, lines 46 and 47) and thus one cannot be in a broadcast mode and the other in a localcast mode.

In response, the only point that the Examiner can understand from the above arguments is that Applicant argues that the PDU cannot transmit data to the paging cell stick in a broadcast mode. The Examiner **agrees** with this statement. However, claim 44 does not recite a limitation that would imply the mobile device would transmit data in a broadcast mode. Therefore, the rejection is maintained. Further, if claim 44 does recite a limitation that would imply the mobile device transmits data in a broadcast mode (i.e., based on Applicant's argument), a 35 USC 112 first rejection would be applied to claim 44 for the same reason as set forth in claim 2.

As to claim 50, it appears to the examiner that Applicant again argues that the PDU in Lorang cannot transmit data to the paging cell stick and that claim 50 also recites a limitation in which the mobile device would transmit data in a broadcast mode.

In response, the examiner asserts that Lorang discloses a mobile device (PDU) that can receive signals from a paging cell stick, and this would read on communicate (or receive) with a broadcast transmitter in a broadcast mode. The PDU can also

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receive/transmit signal to/from an "office" and "home" cell, this would read on communicate (or transmit and receive) with a local-cast transmitter in a localcast mode. Therefore, Lorang would disclose claimed limitations and the previous rejection is maintained. Otherwise, if claim 50 does recite a limitation that would imply the mobile device transmits data in a broadcast mode (i.e, based on Applicant's argument), a 35 USC 112 first rejection would be applied to claim 50 for the same reason as set forth in claim 2.

For foregoing reasons, the examiner believes that the pending claims (2-11, 44-53) are not allowable over the cited prior art.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. **Any response to this final action should be mailed to:**

Box A.F.

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

Hand-delivered responses should be brought to Customer Service Window,
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner
should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893,
Monday-Thursday (9:00 AM - 5:00 PM).

Or to Matthew Anderson (Supervisor) whose telephone number is (571) 272-
4177.

Duc M. Nguyen, P.E.

Oct 18, 2006

